

WHAT IS CLAIMED IS:

1. A method of adding electrolyte solution to an alkaline cell comprising a casing having an open end and opposing closed end, comprising:

(a) inserting cathode material into the casing, said cathode material having an opening defined therein;

(b) inserting a separator into at least a portion of said opening defined in said cathode material, there being a gap between at least a portion of said separator and the cathode material;

(c) adding alkaline electrolyte solution into said gap.

2. The method of claim 1 wherein said electrolyte solution is added to said gap by inserting a dispensing nozzle therein and dispensing electrolyte solution therefrom into said gap.

3. The method of claim 1 wherein said casing has at least one flat surface along its length.

4. The method of claim 1 wherein said casing is in the shape of a cuboid.

5. The method of claim 1 wherein said cathode comprises manganese dioxide, and said electrolyte comprises aqueous potassium hydroxide.

6. The method of claim 1 wherein said gap has a width between about 2 and 4 mm.

7. The method of claim 1 wherein said gap is between about 2 and 4 mm wide.

8. The method of claim 1 wherein said separator has a bag shape and comprises a body surface having an open end and opposing closed end, wherein said body surface defines a cavity for insertion of anode material therein.

9. The method of claim 8 wherein said separator body surface defining said cavity has an oblong configuration when viewed in cross section along a plane taken perpendicular to the cell's central longitudinal axis.

10. The method of claim 3 wherein said cell has a thickness of about 6 mm, a width of about 17 mm and a length of between about 35 and 67 mm.

11. The method of claim 9 wherein said oblong configuration comprises a pair of opposing wide sides and a pair of opposing short sides, wherein said gap is between one of said separator short sides and said cathode.

12. A method of adding electrolyte solution to an alkaline cell comprising a casing having an open end and opposing closed end, comprising:

(a) inserting cathode material into the casing so that a cathode surface faces the casing and an opposing exposed cathode surface faces the cell interior;

(b) inserting a separator into the casing so that a surface of the separator faces said exposed surface of said cathode, there being a gap between at least a portion of said separator and the cathode;

(c) inserting anode material into said casing so that the separator is between said anode and cathode;

(d) adding alkaline electrolyte solution to said gap, wherein at least a portion of said added electrolyte is absorbed into the anode thereby causing the anode to expand and close said gap between separator and cathode.

13. The method of claim 12 wherein said casing has at least one flat surface along its length.

14. The method of claim 12 wherein said casing is in the shape of a cuboid.

15. The method of claim 12 wherein said anode comprises zinc, said cathode comprises manganese dioxide, and said electrolyte comprises aqueous potassium hydroxide.

16. The method of claim 12 wherein said gap has a width between about 2 and 4 mm.

17. The method of claim 12 wherein said separator has a bag shape and comprises a body surface having an open end and opposing closed end, wherein said body surface defines a cavity for insertion of anode material therein.

18. The method of claim 17 wherein said separator body surface defining said cavity has an oblong configuration when viewed in cross section along a plane taken perpendicular to the cell's central longitudinal axis.

19. The method of claim 14 wherein said cell has a thickness of about 6 mm, a width of about 17 mm and a length of between about 35 and 67 mm.

20. The method of claim 18 wherein said oblong configuration comprises a pair of opposing wide sides and a pair of opposing short sides, wherein said gap is between one of said separator short sides and said cathode.

21. The method of claim 12 wherein said electrolyte is added in plurality of increments to said gap with sufficient time interval between increments to allow for absorption of said electrolyte into the anode.

22. The method of claim 21 wherein said time interval between adding electrolyte increments is between about 1 and 4 minutes.

23. A method of adding electrolyte to an alkaline cell comprising a casing having an open end and opposing closed end, comprising the steps of:

(a) inserting cathode material into the casing so that a surface of the cathode faces the casing and an opposing surface of said cathode faces the cell interior;

(b) forming a separator into a bag shape comprising a body surface with a closed end and opposing open end, said body surface defining a cavity for insertion of anode material therein;

(c) inserting said separator into the cell so that the closed end of said separator faces the closed end of said casing and the open end of said separator faces the open end of said

casing, there being a gap between at least a portion of said separator and the cathode;

(d) adding electrolyte solution into said gap;

(e) inserting anode material into said separator cavity;

(f) adding additional electrolyte solution into said gap,

wherein at least a portion of said added electrolyte is absorbed into the anode thereby causing the anode to expand and close said gap between separator and cathode.

24. The method of claim 23 wherein said casing has at least one flat surface along the length of said casing.

25. The method of claim 23 wherein said casing is in the shape of a cuboid.

26. The method of claim 23 wherein said anode comprises zinc, said cathode comprises manganese dioxide, and said electrolyte comprises aqueous potassium hydroxide.

27. The method of claim 23 wherein said gap is between about 2 and 4 mm wide.

28. The method of claim 23 wherein said separator body surface defining said cavity has an oblong configuration when viewed in cross section along a plane taken perpendicular to the cell's central longitudinal axis.

29. The method of claim 23 wherein said cell has a thickness of about 6 mm, a width of about 17 mm and a length of between about 35 and 67 mm.

30. The method of claim 23 wherein said oblong configuration comprises a pair of opposing wide sides and a pair of opposing short sides wherein said gap is between one of said separator short sides and said cathode material.

31. The method of claim 23 wherein said electrolyte is added in a plurality of increments into said gap with sufficient time interval between increments to allow for absorption of said electrolyte into the anode.

32. The method of claim 31 wherein said time interval between adding said electrolyte increments is between about 1 and 4 minutes.

33. The combination of an alkaline cell housing, cathode and anode material inserted therein, and a separator between said anode and cathode material, the improvement comprising:  
a surface of said separator positioned adjacent said cathode so that there is a gap between at least a portion of said separator surface and said cathode.

34. The combination of claim 33 wherein said anode material comprises zinc and said cathode comprises manganese dioxide.

35. The combination of claim 33 further comprising alkaline electrolyte inserted into said gap.

36. The combination of claim 35 wherein said alkaline electrolyte solution comprises aqueous potassium hydroxide.

37. The combination of claim 33 wherein said gap has a width between about 2 and 4 mm.

38. The combination of claim 33 wherein said housing is in the shape of a cuboid.

39. The combination of claim 38 wherein said housing has an overall thickness of about 6 mm, a width of about 17 mm, and a length of between about 35 and 67 mm.

40. The combination of claim 35 wherein said electrolyte solution added to said gap is at least partially absorbed into said anode material causing said anode to swell and thereby close said gap.